

# St Ambrose College Learning Program: A Level Physical – Hazards: Lower Sixth and Upper Sixth

## 3.2 Physical geography option

### 3.1.5 Hazards

Specification content 3.1.5.1	Objectives/skills	Stretch and Challenge	Homework	Assessment
<ul style="list-style-type: none"> <li>• Concept of Hazards and Disasters</li> <li>• The different types of hazard Geophysical, Atmospheric and Hydrological</li> <li>• Factors that affect people's perceptions of hazards.</li> <li>• Why disasters have a larger impact in LIC's than in HIC's</li> <li>• Show how different groups may respond to a potential disaster - individuals, Local / National authorities and Internationally</li> </ul>	<p>Use of key subject specific and technical terminology.</p> <p>To identify connections and interrelationships between different aspects of geography.</p> <p>Develop an awareness that different people and groups have different responses to potential hazards Students will understand that natural hazards have common characteristics:</p> <ul style="list-style-type: none"> <li>• each has clear origins and distinctive effects</li> <li>• little or no warning</li> <li>• exposure to the risk may be involuntary</li> <li>• most damage and loss of life occurs shortly after the hazard, but impacts may last into the</li> </ul>	<p>Describe the trends of numbers of fatalities and those affected by natural disasters and explain the reasons behind these trends <a href="#">Introductory article on “natural hazards”</a></p> <p>5 minute video clip on <a href="#">how natural hazards affect humans</a></p> <p><a href="#">Definitions of types of hazards</a> and excellent links to further information on each</p> <p><a href="#">List of natural hazards experienced in different countries around the world.</a></p> <p><a href="https://www.youtube.com/watch?v=cWYcXhMhJF4">https://www.youtube.com/watch?v=cWYcXhMhJF4</a></p> <p>From disaster response to disaster prevention   Rachel Kyte</p> <p>Top down investment flows</p> <p>Bottom up building of community</p> <p><a href="https://www.youtube.com/watch?v=h7fbfZxoWIY">https://www.youtube.com/watch?v=h7fbfZxoWIY</a></p> <p>There is nothing natural about disaster   Rohini Swaminathan</p> <p>12 minutes 37 sec</p> <p>This was published in April 2012 Hurricane Sandy occurred on 29<sup>th</sup> October 2012</p>	<p>Read the relevant chapters in the text book on “Natural Hazards</p> <p>Complete questions as requested by teacher about resource classification Draw the Hazard Management cycle and make notes on each of the 4 phases. Leave a gap between each section of 3 lines for any extra information</p>	<p>Definitions of: Hazard Disaster Risk Vulnerability Fatalism</p>

	future <ul style="list-style-type: none"> <li>• their scale and impact requires an emergency response.</li> </ul>			
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Specification content 3.1.5.1	Objectives/skills	Stretch and Challenge	Homework	Assessment
<ul style="list-style-type: none"> <li>• Models of human responses to hazards:</li> <li>• The Hazard management cycle</li> <li>• The Park disaster model</li> </ul>	<p>Use of key subject specific and technical terminology.</p> <p>Online research.</p> <p>Develop an awareness of the interrelationships between different aspects of the specification – hazards and globalization</p> <p>Develop extended writing skills.</p>	<p>Draw the Hazard Management Cycle and make notes on the four phases.</p> <p>Read the handout on the Park model and draw diagrams to show the model under two different scenarios – a severe earthquake in a developing country and a flood after a period of heavy rainfall in a HIC</p> <p>Exam question about the usefulness of the Park model</p> <p><a href="https://www.youtube.com/watch?v=OHOvIUf6_fY">https://www.youtube.com/watch?v=OHOvIUf6_fY</a></p> <p>Can we build disaster resilient communities? 14 minutes good for Park model and storms</p>	<p>Each student to research a topic to do with volcanoes and present their findings back to the group.</p> <p>Each presentation to be graded by the rest of the class.</p>	<p>Presentation of their assessment content and delivery.</p> <p>Keywords/definitions test</p> <p>Past paper questions as given.</p>

Specification content 3.1.5.2	Objectives/skills	Stretch and Challenge	Homework	Assessment
<ul style="list-style-type: none"> <li>The structure of the Earth</li> <li></li> </ul>	<p>Use of key subject specific and technical terminology</p> <p>Interpret a variety of data.</p> <p>Develop extended writing skills to explore issues.</p>	<p>Match the key words to their definitions</p> <p>Describe the structure of the Earth in 100 words or less</p>	<p>Research the evidence that Alfred Wegener put forward in his theory of Continental Drift</p>	
Specification content 3.1.5.2	Objectives/skills	Stretch and Challenge	Homework	Assessment
<ul style="list-style-type: none"> <li>Plate tectonic theory of crustal evolution and sea floor spreading</li> <li>Movement of plates</li> <li>Gravitational sliding, ridge push and slab pull</li> </ul>	<p>Show how the theory has developed over time</p>	<p>Diagram to show ridge push and slab pull</p>		<p>Evaluating and presenting findings from research.</p>
<ul style="list-style-type: none"> <li>Plate margins and magma plumes and landforms associated with plate tectonics</li> </ul>	<p>Use of key subject specific and technical terminology</p>	<p>Draw diagrams to show the different types of plate margin.</p> <p>Draw up a table showing the relationship between seismicity, vulcanicity and plate tectonics</p> <p>Answer questions P 223 Textbook</p>	<p>Revise for test on key terms</p>	<p>Test on key terms</p>
<ul style="list-style-type: none"> <li>Distribution of volcanoes</li> <li>Classification of volcanic eruptions</li> <li>Frequency and regularity of eruptions</li> <li>Prediction of volcanic eruptions</li> </ul>	<p>Use of key subject specific and technical terminology</p>	<p>Describe the distribution of active and dormant volcanoes</p> <p>Explain what hot spots are and how they are formed.</p>		

<ul style="list-style-type: none"> <li>Mudflows and lahars</li> </ul>		Outline the different methods used to predict volcanic eruptions P 227 Textbook		
<ul style="list-style-type: none"> <li>Impacts of volcanic activity</li> </ul>	Compare and contrast the eruptions of Eyjafallajokull and Mount Merapi in Java	Case study of Eyjafallajokull Eruption 2010 Answer questions P 229 Textbook	Past question	Past question ash dispersal
<ul style="list-style-type: none"> <li>Short and long term responses to volcanic eruptions</li> </ul>	Human responses to a volcanic eruption	Case study of Montserrat eruption 1995 to present day		
<ul style="list-style-type: none"> <li>Case study Mount Etna</li> </ul>	Human responses to a recent volcanic event	With reference to a recent volcanic event, assess the extent to which you agree that physical factors are more important than human factors in determining the level of impacts experienced by the local population		.Essay
<b>Specification content 3.1.5.2</b>	<b>Objectives/skills</b>	<b>Stretch and Challenge</b>	<b>Homework</b>	<b>Assessment</b>
<ul style="list-style-type: none"> <li>Earthquakes and Tsunamis</li> </ul>	The nature and causes of seismic hazards	Causes of seismicity Types of shockwaves Characteristics of tsunamis		Past question on Tsunamis
<ul style="list-style-type: none"> <li>The spatial distribution of earthquakes</li> <li>Magnitude, frequency, regularity and predictability of earthquakes</li> <li>The mitigation of earthquakes</li> </ul>	Describe and explain distribution of earthquakes		Essay 'Earthquakes don't kill people, buildings do'	
<ul style="list-style-type: none"> <li>Case study of the 2004 tsunami</li> </ul>	The primary and secondary effects and the short and long term responses	Past questions		
<ul style="list-style-type: none"> <li>Case study of the Haiti earthquake 2010</li> </ul>		Haiti by numbers Evaluate how successful were the responses to the Haiti earthquake		

A multi-hazardous environment	Tohoku earthquake and tsunami 2011	Draw up a table showing the primary and secondary effects of the earthquake and tsunami and the short and long term responses	Qu 3 P 249Textbook	
<b>Specification content 3.1.5.2</b>	<b>Objectives/skills</b>	<b>Stretch and Challenge</b>	<b>Homework</b>	<b>Assessment</b>
Storm hazards Location Formation and characteristics Hazards associated with hurricanes	How hurricanes form. Characteristics of hurricanes Hazards of hurricanes Strong winds Storm surges Flooding Landslides	Case studies Katrina Sandy Haiyan Nargis	Past question	Past question
Prediction of hurricanes      Impacts of hurricanes	Satellites Airplanes Drones Past records	<a href="https://www.youtube.com/watch?v=ZlojvcmgfQA">https://www.youtube.com/watch?v=ZlojvcmgfQA</a> Predicting the 9 biggest weather disasters in the next 30 years   Jeff Masters  <a href="#">How tropical storms are forecast</a> by the National Hurricane Center  <a href="#">Live imagery mapping tropical storm activity around the world</a>  <a href="#">Short article about adapting to tropical storms</a>		
Reducing the impacts of tropical storms		Answer questions P 261 Textbook		

<p>Preparation</p> <p>Mitigation</p> <p>Aid</p> <p>Insurance</p> <p>Prevention</p> <p>Adaptation</p>		<p>Students to develop a detailed understanding of <b>TWO</b> recent tropical storms from <b>contrasting areas of the world</b> (to be chosen by individual students/centres). Students must be able to:</p> <ul style="list-style-type: none"> <li>• describe the spatial and temporal setting of the tropical storms</li> <li>• assess the perception of the tropical storms, and the factors affecting those perceptions at a range of scales – eg, magnitude, frequency, population characteristics etc.</li> <li>• explain the causes of the tropical storms</li> <li>• explain and assess the impacts of the tropical storms</li> </ul> <p>explain, assess and justify the response to the tropical storms – including the factors affecting this response</p>	<p>Essay on contrasting storms</p>	
<ul style="list-style-type: none"> <li>• Nature of wildfires. Conditions favouring intense wild fires: vegetation type, fuel characteristics, climate and recent weather and fire behaviour. Causes of fires: natural and human agency.</li> </ul> <p>Impacts: primary/secondary, environmental, social, economic, political. Short and long-term responses; risk management</p>	<p>Use of key subject specific and technical terminology.</p> <p>Opportunities to develop skills such as drawing, labelling and annotating diagrams.</p> <p>Online research into fire hazards.</p> <p>Construct a range of graphs and use statistical skills.</p> <p>Developing extended writing skills.</p>	<p>Students to understand that the nature of wildfires is determined by the geographical characteristics of the area affected.</p> <p>To be able to explain the causes/conditions leading to <b>intense</b> wildfires, to include:</p> <ul style="list-style-type: none"> <li>• vegetation type</li> <li>• fuel characteristics</li> <li>• climate</li> <li>• recent weather</li> <li>• fire behavior.</li> </ul> <p>Students to be able to describe the distribution of wildfires.</p> <p>Students to understand the causes of wildfires, including</p> <ul style="list-style-type: none"> <li>• natural agency</li> <li>• human agency .</li> </ul> <p>Students should be able to describe, explain and assess</p>		

<p>Impact and human responses as evidenced by a recent wild fire event.</p>	<p>Producing annotated maps.</p> <p>Practicing exam style questions, including the use of peer assessment.</p> <p>Conducting independent and group research tasks.</p> <p>Making links within, across and beyond this area of the specification.</p> <p>Engage with remotely sensed satellite data.</p>	<p>the specific nature of impacts of wildfires.</p> <p>Students to understand wildfire hazards can be categorised (possible opportunity to discuss the usefulness of classification in geography). Categories to include:</p> <ul style="list-style-type: none"> <li>• primary/secondary</li> <li>• environmental, social, economic, political.</li> </ul> <p>Students to understand that responses to wildfire hazards can be categorised as ‘short and long-term’.</p> <p>Students to appreciate that risk management is designed to reduce the impacts of wildfire hazards via:</p> <ul style="list-style-type: none"> <li>• preparation</li> <li>• mitigation</li> <li>• prevention</li> <li>• adaptation.</li> </ul> <p>Students to develop a detailed understanding of <b>ONE</b> recent wildfire event (to be chosen by individual students/centres). Students must be able to:</p> <ul style="list-style-type: none"> <li>• describe the spatial and temporal setting of the wildfire</li> <li>• assess the perception of the wildfire, and the factors affecting those perceptions at a range of scales – eg, magnitude, frequency, population characteristics etc.</li> <li>• explain the causes of the wildfire</li> <li>• explain and assess the impacts of the wildfire</li> </ul> <p>explain, assess and justify the response to the wildfire – including the factors affecting this response.</p> <p><a href="#">National Geographic photo gallery and summary of wildfires</a></p> <p><a href="#">Natural Disasters Association information about wildfires</a></p>		
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[Overview of wildfires](#)

[Interactive global map of wildfires](#) spanning from March 2000 to January 2016

[Accounts of wildfires on each of the different continents](#)

[Simple introductory information on many aspects of wildfires](#)

Information on [‘how wildfires work’](#)

[Causes of wildfires](#)

[Causes and effects of wildfires and solutions for dealing with them](#)

Earth Unplugged [video on causes of wildfires](#)

SciShow [video on the science behind wildfires](#)

Environmental impacts of forest fires:  
[Short article on the environmental effects of wildfires](#)

[CBS article on the long term environmental impacts](#)

Social and economic impacts of wildfires:  
[Article summarizing the economic impacts of wildfires](#)

Wildfires and health:  
Information on research into [the effects of wildfires on respiratory health](#)

		<p><a href="#">Long distance impacts of wildfires on health and climate change</a></p> <p>Managing wildfires:  <a href="#">Factsheets on how to respond to the various hazards associated with wildfires</a></p> <p><a href="#">Information on managing wildfires from the US Forest Service</a></p> <p><a href="#">Canadian perspective on how to manage wildfires</a></p> <p>Preventing wildfires:  <a href="#">Recommended methods of preventing wildfires in California</a></p> <p><a href="#">National Geographic wildfire safety tips</a></p> <p><a href="#">Information on forest fire prevention</a></p> <p>Adapting to wildfires:  <a href="#">Lecture on adapting to wildfires in California</a>, with a video, podcast and PowerPoint</p> <p><a href="#">Article on living in areas prone to wildfires</a></p> <p><a href="#">Article on learning to live with wildfires, including diagrams</a></p>		

